# THE PERFECTION FURNACE.

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THE JAMES SMART MANUFACTURING COMPANY,

BROCKVILLE, ONTARIO

# The EDITH and LORNE PIERCE COLLECTION of CANADIANA



Queen's University at Kingston

## ILLUSTRATIVE AND DESCRIPTIVE

## CATALOGUE

"PERFECTION"

# HOT AIR FURNACES.

The

James Smart Manufacturing

Company,

BROCKVILLE, ONTARIO.

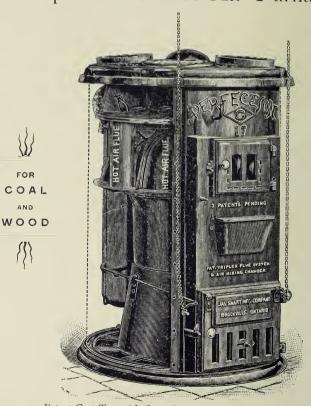
CANADA.

Branch:—431 St. Paul Street, Montreal.

L. A. PAVETTE, Agent.



Triplex Flue Hot Air Furnace.



FOR COAL

AND

Patent Cast Top with Interchangeable Rings and Covers. Rings furnished for 8, 10 or 12 inch Hot Air Pipe.



Triplex Flue Hot Air Furnace.





Showing Galvanized Iron Top in place of our Patented Cast Top.



THE mission of this pamphlet is to place before dealers and consumers, certain constructions in Hot Air Furnaces differing in many particulars from those being offered by other makers, and we believe that the principles to which we herewith ask your attention, are in advance of any others now being used, and we have demonstrated this to the entire satisfaction of the people for whom Furnaces have been put in during the past winter.

With the thermometer outside at 25° below zero, our No. 17 has heated, thoroughly and economically, exposed, detached houses containing from 18,000 to 23,000 cubic feet, and in one instance a school room containing 30,000 cubic feet.





## The Perfection Furnace

#### HAS THE FOLLOWING SPECIAL FEATURES:

An Outside Galvanized Iron Casing and an Inside Tin Casing, with nearly an inch space between, which prevents heat escaping into the cellar.

#### 2

The Bottom of Dome is Wider than Top of Fire Pot,
Which gives room for the burning gases to expand at
once, as combustion takes place, and forms a valuable
addition to the heating power of the Furnace.

#### 3

The Top of Dome is about 11 inches from Top of Fire Pot, which construction brings important heating surfaces near the hottest of the fire.

## An Air Mixing Chamber.

receiving the air in various degrees of heat and distributing it to the rooms in a uniform degree of heat.





Air Circulating Passages.

- (a) The hottest air flues are formed by portions of the dome at the back, and oval flue plates in front. Through these the air passes directly over the fire, and is discharged into the "mixing chamber."
- (b) The next hottest air passages are through the 4 inch Hot Air Flues. (See cut).
- (c) The next hottest air passages are through the slots and openings in the bottom of "mixing chamber."
- (d) The next hottest air passage is between the bottom of "mixing chamber" and inside tin casing—a space about half an inch wide.
- (e) All these different currents of heated air are discharged into the "mixing chamber" and from there distributed to the various rooms in a uniform degree of heat.
- (f) None of the joints in the "air circulating system" are in any way connected with portions of furnace which are exposed to the burning gases.

Triplex Flue System.

An important and simple construction, exposing 2000 square inches heating surface.

6



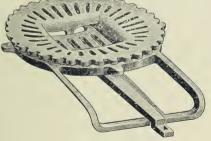


A Combined Check and Dust Damper.

Taking all dust into the rear flues, and when "open to check fire" the passage for gases is not reduced in size below the capacity of a seven inch smoke pipe. *Important*.

8

Only three joints in contact with the fire from fire pot to pipe collar and these so arranged as to be dust and gas proof.



THE GRATE.

No Radiator.

9

We dispense with this unnecessary attachment that has often been the cause of much trouble and expense.





Low Down Construction.

10

No. 17, 48 inches high. No. 20,

Complete with Casing.

1 1

These Features Produce

Unusual Heating Power, coupled with Economy, Strength, Durability,

Ease of Management,

50

Moderate Cost.





Size of Furnace to Select.

This depends entirely upon circumstances.

The No. 17 is capable of heating, advantageously, from 10,000 to 22,000 cubic feet.

The No. 20, from 16,000 to 30,000 cubic feet.

Always bear in mind that a loosely built house requires a larger furnace than one that is closely built, and also that a detached house requires more heating power than a similar sized one in a terrace.

On receipt of particulars as to location, material used in building (whether stone, brick or frame) and size and location of rooms to be heated (with height of ceiling), we will be happy to advise the size of furnace to select.

The "Perfection" Furnace can be placed in a cellar under five feet high.





## "PERFECTION"

# Triplex Flue Hot Air Furnace, FOR WOOD ONLY,

Showing Patent Cast Top with Interchangeable Rings and Covers.

Height complete (ready for Hot Air pipes)
Only 3 feet 8 inches.

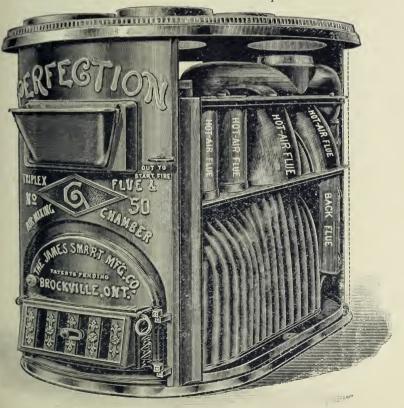
#### 

No. 50—	 4.6		4 fe	et 4 inches
Unight		SIZE	OF FEED DOOR OPENING.	1





Hot Air Furnace with Triplex Flue.



FOR WOOD ONLY. THIS STYLE OF TOP COSTS EXTRA.



Triplex Flue Hot Air Furnace,
FOR WOOD ONLY,
Showing Galvanized Iron Top.

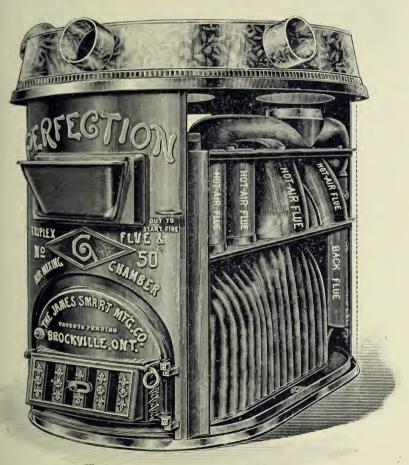
Height complete to top of Galvanized Iron 4 feet 6 inches.

#### TWO SIZES.

No. 45—Length of Fire Box	3 ft. 6 in.								
No. 50— " "	4 ft. 4 in.								
SIZE OF FEED DOOR OPENING.	SIZE OF FEED DOOR OPENING.								
Height	15 inches								
Width	17 inches								

## "PERFECTION"

Triplex Flue Hot Air Furnace.



FOR WOOD ONLY.



## THE "PERFECTION" FURNACE FOR WOOD

### Has the following features, viz.:

Very Heavy Corrugated Fire Box.

Direct and Indirect Draft.

Draft Dampers operated by means of chains from rooms above.

5 8-inch Hot Air Flues All emptying into "Mixing Chamber."

13 4-inch Hot Air Flues

A solid Inside Casing and With 11/8 inch space between.

A solid Outside Casing

No radiator to clean out, the flue system being the same as "Perfection" Furnace for Coal and Wood.

We recommend Portable Form in all cases, but any of our Furnaces can be furnished for brick setting.

An important feature of the "Perfection" Furnace (whether for coal and wood or wood only) is that all parts in contact with the fire have a current of air passing over the opposite side, which produces powerful heating qualities and durability.





Our Anti-clinker, Draw Centre Grate is easily operated and cleaned. (See page 7).

Draft Damper and Combined Check and Dust Damper, are both operated from rooms above by chains.

The Fire Pot and Dome are extra heavy.

No radiator to clean out. All dust settles at the bottom of the Triplex Flue System.

Entire freedom from dust and gas.

Double Casings. Inside casing, tin; outside casing, gal-vanized iron.

The satisfactory heating of rooms depends upon proper *circulation*. We have known houses to be so tightly built that heat could not be forced into certain rooms with doors closed. If any are troubled in this way we will be happy to let them know how to overcome the difficulty.





Unless the house to be heated is provided with a thorough system of ventilation, always use from two to four 10 inch pipes for conducting cold air to the furnace, having them open into convenient parts of the house.

In some cases direct communication with the outside air is necessary, but often the supply from inside is all that is required.

When cold air pipes are taken from the outside, a damper should always be provided for regulating or shutting off entirely the supply.



Always use this cold air pocket.





## Hot Air Supply.

No invariable rule can be laid down. Under ordinary conditions, however, we recommend for

#### FIRST FLOOR.

ROOMS.			RE	GISTER.				
8 x 12—use 8	in.	pipe	with	8 x 12				
12 x 15—use 10	in.	6 6	4.6	10 x 14				
15 x 18—use 12	in.	6 6	4.4	12 x 15				
HALLS-10 to 12 in. pipe, with regis-								
ters 10 s	(14	or 12	x 15.					

#### SECOND FLOOR.

ROOMS.	REGISTER.
8 x 10—use 6 in. pipe,	$\begin{cases} 8 \text{ in. round} \\ \text{or } 7 \text{ x to sq.} \end{cases}$
10 x 15—use 7 in. pipe	9 in. round or 8 x 12 sq
UPPER HALLS use 7 in. pipe	9 in. round or 8 x 12 sq.

Unless the stairway is very open, thus giving the heated air ample space to rise, *always* take a seven inch pipe to the upper hall, direct from the furnace.





#### From Joseph Wilder, Esq., Kingston, Ont.

April 11th, 1889.

Gentlemen:—The No. 17 Perfection Furnace put in my house by Nugent & Taylor, last December, has given me entire satisfaction. I can run it with as low a fire as a parlor stove. It is free from dust, gas or any other noxious impurities and I can recommend it to the public.

#### From J. P. Whitney, Esq., M. P., Morrisburg, Ont.

April 13, 1889.

Gentlemen:—The No. 17 Perfection Furnace placed in my house in Nov. last, has heated the same to my entire satisfaction. The house contains nine rooms, including hall, the whole measuring 23,000 cubic feet. I am satisfied I have used no more coal, if as much, as when heating with stoves. I can safely recommend your Furnace to any one wishing to purchase.

#### From Pelletier Fils & Co., River-du-Loup, Que.

The "Perfection" Furnace works all right. Our very best thanks for the information we had from you in regard to setting it.

#### From John M. Rosamond, Esq., Almonte, Ont.

30th April, 1889.

Dear Sirs:—Your favor of the 29th inst. received, and I have much pleasure in stating that the "Perfection" Furnace placed in my house last fall proved satisfactory in every way during the winter. It is very easy to manage, is an effectual heater and economical in the consumption of coal, and I am thoroughly satisfied with it.





#### From A. G. F. Drew, Esq., Morrisburg, Ont.

April 16, 1889.

Gentlemen:—In reply to your inquiry as to the working of the several "Perfection" Furnaces put in by me I would say that for heating power and economy of fuel they are complete and I expect to put in a good many of them this season. With the No. 17, we have heated buildings of over 25,000 cubic feet satisfactorily and with a large percentage less fuel than other furnaces.

#### From James McLatchie, Esq., Cardinal, Ont.

April 10, 1889.

Gentlemen:—I have used the Perfection Furnace sold to me by your agent, A. Gamble, since the 15th of December. 1888, and have burned 3¾ tons of coal, and take pleasure in recommending it as a first-class Furnace.

#### From Edwin Abbott, Esq., Brockville, Ont.

I have used during the past winter one of your No. 17 "Perfection" Furnaces which has heated my house (containing about 16,000 cubic feet) to my entire satisfaction. I have found it free from gas and dust, easy to operate, and the principles of construction I consider excellent.

#### From John Briggs, Esq., Brockville, Out.

The No. 17 Perfection Hot Air Furnace you placed in my house last fall has given unqualified satisfaction, heating the house thoroughly and uniformly in all the rooms, at a saving of 20 per cent. in fuel over the three coal stoves I had formerly in use. My house contains nine rooms, with wing and attic, a total of about 22,000 cubic feet in an exposed situation, and it is extremely creditable to you that so small a furnace, at so low a first cost, should have been successful in heating it. The Furnace requires very little attention and is easily managed, and gives us no trouble of any kind.





#### From W. S. Donaldson, Esq., Brockville, Ont.

The Nc. 17 Perfection Furnace which I have used during the past winter has preved satisfactory. My house is detached, not sheltered, and contains about 17000 cubic feet. The Furnace is easy to operate, free from gas and dust and I am pleased to recommend it.

#### From Wm, Neilson, Esq., Brockville, Ont.

May 25, 1889.

Dear Sirs:—I have much pleasure in informing you that the Hot Air Furnace furnished by your firm has given me entire satisfaction and I have no hesitation in recommending it as a first-class article.

#### From Rev. W. A. McKenzie, Brockville, Ont.

May 25, 1889.

I have great pleasure in testifying to the superior merits of the "Perfection" Furnace. Although the manse is large and somewhat difficult to heat, the "Perfection" warmed it up beyond our most sanguine expectations. Its consumption of coal is comparatively small when compared with the great outlay of heat. Last winter our furnace consumed less than seven tons of coal. During its short stay within the household the "Perfection" has endeared itself to us all. It is simple, economical, easily handled and a great heater.

#### From James McCallum, Esq., Brockville, Ont.

May 22, 1889.

I have used one of your No. 17 Perfection Furnaces during the past winter, heating my house in a very satisfactory manner. It is easy to operate, burns either j.ca, nut or stove coal; does not give out any gases and is free from dust. The mcderate first cost at which it is supplied, together with its excellent heating qualities and the small amount of fuel required should make it a favorite with the public.





From J. Bolton, Esq., Brockville, Ont.

May 23, 1889.

Gentlemen:—I have used your Perfection Furnace during the past winter, and must say that I found it very economical in fuel, and for heating purposes it is A I. It is very easily regulated and I have never been troubled with the leakage of gas, and I would take much pleasure in recommending it as one of the best Furnaces in the market. I am also using your Perfection Range, and am pleased to say that it gives me perfect satisfaction.

#### From Thomas Southworth, Esq., Brockville, Ont.

May 27, 1889.

Gentlemen:—In response to your inquiry as to how the Perfection Furnace purchased from Mr. R. II. Smart last fall suited me, I have to say I am particularly well pleased with it. It heated my house well, all over, with about the same amount of coal as was required for the large base burner stove that I used the winter before, and that only heated well two rooms. The "Perfection" is easily controlled, very easy on fuel, and despite its diminutive stature, a big heater.

#### From Alex. Steele, Esq., Carleton Place, Ont.

May 20, 1880.

The No. 17 Perfection Furnace that you shipped to me last fall I placed in the house of one of my customers and it has given abundant proof that the principles of construction are right. The house has been heated thoroughly and economically, and is pronounced to be free from gas and dust and furnace is easy to manage. I have from the very first been favorably impressed with this Furnace, and am pleased that its novel features are good features, and where cellars are low your "low down" construction is excellent.





## Capacity of Pipes and Registers.

## Square Registers.

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IO	X	14										93	
I 2	X	15									I	20	)
12	Х	19	١.								I	52	
12													
14													
20	X	26		•							3	47	

## Round Pipes.

	size								nch
k.	3120						"	ν	 CIU,
7	incl	ì.							38
8	6.6								50
10	66								78
12	6 6								113
14	"								154
16	6.								200
18	4.6								254
20	6.6								314
22	6 :								380
24	6.6								452
26	6.6								530
28	6.6								616
30	6.6								700

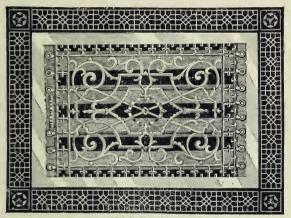
## Round Registers.

Size	t.								el ity	
8	incl	1.							3	3
9									4	2
10	"								5	2
12	6.6								7	5
14	4 6							1	0	3
18	6.6							I	6	9
24	6.6							3	0	0
30	6.6								I	
36	6.6							6	7	9
-										

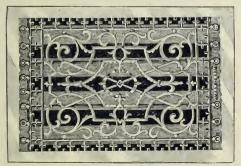




"PERFECTION" REGISTER.—Japanned or Nickled.



With Border.



Without Border.

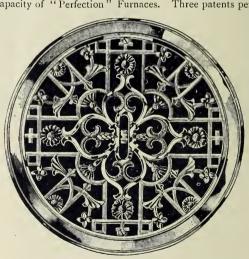


## Dimensions of Perfection Furnace.

SIZES.	Height with Casing		Diameter of Fire Pot	Depth of Fire Pot.	Heating Capacity.
No. 17	48 inches	$33\frac{1}{2}$ inches	18 inches	15 inches	10,000 to 22,000
No. 20	50 "	331 "	21 "	17 "	16,000 to 30,000

The "Air Circulating System" (patented by ourselves), adds very largely to the heating capacity of "Perfection" Furnaces. Three patents pending.

"Perfection" Register.



Japanned or Nickeled.





Smoke Pipe Register.



Japanned or Nickel Plated. 7 in., 8 in., 9 in.





## Price List Floor Registers.

## SQUARE. JAPANNED.

Size of Opening.	Register.	Border.	Face Plate.
7 x 10	\$ 2 30	\$1 30	\$ 0 75
8 x 12	2 80	1 35	1 00
9 x 14	3 60	1 40	1 50
10 x 14	4 00	1 55	2 00
12 x 15	5 00	1 75	1 75
12 x 19	6 00	2 30	2 50
14 x 22	8 00	3 00	3 10
16 x 24	12 00	4 C0	5 50
20 x 26	16 00	6 25	10 00

Special prices quoted for Nickel Plated Registers.





## Price List Floor Registers.

#### ROUND. JAPANNED.

Size of Opening.	Register.	Border.	Face Plaie.
7 inch. 8 " 9 " 10 " 12 " 14 " 18 " 24 "	\$ 1 50 1 80 2 CO 2 50 3 30 4 50 7 50 12 CO	\$0 85 1 00 1 10 1 30 1 55 1 95 3 25 5 50	\$0 60 0 65 0 75 0 90 1 20 1 65 2 75 5 00
30 inch, extra	·		00 01
36 " "		14 00	14 00

Smoke Pipe Registers..... \$2 25





## VENTILATORS.

#### CIRCULAR TOP. VERTICAL WHEEL.

Size of Opening.	Japanned, White or Black.	Bronzed.	Nickel Plated.
7 x 10	\$2.25	\$2.85	\$4.50
8 x 12	2.95	3 60	5.35
9 x 13	3.40	4.10	5.75

#### ROUND WALL. FOR CORDS.

Size of Opening.	Japanned, White or Black.	Bronzed.	
6 inch	\$1.30	\$1.80	
7 ''	1.50	2.00	
9 "	1.80	2.25	
	2.CO	2.55	





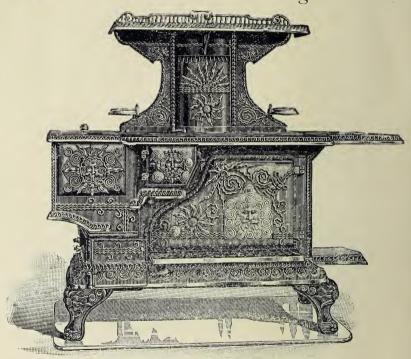
Price List Registers.

#### CONVEX SIDE WALL.

REGISTERS.				FACES.	
Size of Opening.	Japanned, White or Black.	Bronzed.	Nickel Plated.	Japanned.	Bronzed.
6 x 10 8 x 12 9 x 14 10 x 16	\$3.00 4.00 5.00 6.25	\$4.00 5.00 6.20 7.75	\$5.75 6.50 7.50 9.25	\$1.25 1.75 2.25 3.15	\$2.25 2.85 3 60 4.65







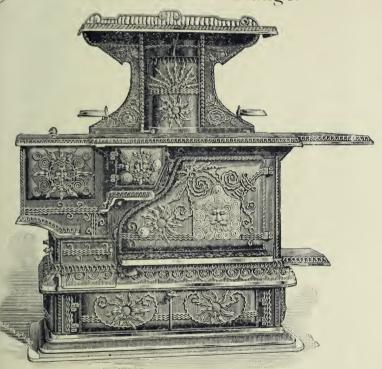
#### WITH RESERVOIR AND HIGH SHELF,

This cut shows....  $\begin{cases} 8-22 & \text{Range, with Reservoir and High Shelf.} \\ 9-22 & " & " & " & " & " & " \\ 9-25 & " & " & " & " & " & " & " \end{cases}$ 

Our Patented Rounding Bottom Tank supplied.

The Reservoir attachment can be placed on either end of Range, which feature is patented.





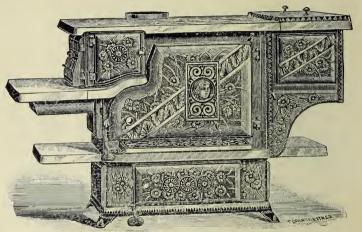
#### CENTRE FIRE BOX. LOW CLOSET AND HIGH SHELF.

This cut shows ..... 8-22 Range, with Reservoir on Left Hand End.
9-22 " " " " " " " " " " " " " "

Our Patented Rounding Bottom Tank supplied.

The Reservoir attachment can be placed on either end, as desired. This feature is also patented.





THIS RANGE BURNS WOOD ONLY.

### WE MANUFACTURE A COMPLETE LINE OF

- "Perfection" Stoves and Ranges for Wood,
- "Perfection" Stoves and Ranges for Coal and Wood,

COMPRISING UPWARDS OF 100 VARIETIES.





